

25 Lecture - MTH101

Important Subjective

What is integration?

Integration is the process of finding the area under a curve between two points.

What is the difference between definite and indefinite integrals?

Definite integrals give a specific numerical value for the area under a curve between two points, while indefinite integrals give a function whose derivative is the original function.

How are integrals used in physics?

Integrals are used in physics to find the work done by a force.

What is the method of cylindrical shells?

The method of cylindrical shells is a process for finding the volume of a solid formed by revolving a curve around an axis using integrals.

How are integrals used in economics?

Integrals are used in economics to find the total revenue or profit of a company.

What is an antiderivative?

An antiderivative is a function whose derivative is the original function.

How is the constant of integration determined?

The constant of integration is determined by specifying a value for the function at a specific point.

What is the formula for finding the area between two curves?

The formula for finding the area between two curves is $A = \int (f(x) - g(x)) dx$.

How are integrals used to find the arc length of a curve?

Integrals are used to find the arc length of a curve by integrating the length of small segments of the curve as the curve is traced between two points.

What is the relationship between integration and differentiation?

Integration is the inverse of differentiation, and finding the antiderivative of a function is equivalent to integrating the function.